

REMARKS

Claims 1-24 are pending in the present application.

Claims 1-24 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Applicant's Admitted Prior Art (APA) in view of Hoglund et al. (U.S. Patent Number 6,029,216) (hereinafter 'Hoglund'). Applicant respectfully traverses this rejection and requests further consideration in light of the remarks.

In the specification at page 2, paragraphs 1 and 2 Applicant discloses

"Conventional CPCI defines a backplane environment that is typically limited to eight slots. More specifically, the bus segment of the conventional CPCI system is limited to eight slots, in which front cards (e.g., motherboards) and mating transition cards are installed. Typically the front card provides substantially all features and functions (i.e., clocking, arbitration, configuration, and interrupt processing) of the CPCI system and the transition card allows access to these features and functions by providing ports, such as Small Computer System Interface (SCSI) ports.

Most CPCI front cards (e.g., motherboards) in the system slot feature SCSI support. SCSI buses require termination at the extremities (or ends). Termination simply means that each end of the SCSI bus is closed either via a resistor circuit or an active terminator. (Active termination which incorporates a small voltage regulator for better impedance matching is preferred for most SCSI speed specifications and is especially preferred for Ultra SCSI speed specification.) If the bus were left open (not terminated), electrical signals sent down the bus may reflect back and interfere with communication between SCSI devices and the SCSI controller. Only two terminators are used: one at each end of the SCSI bus. In the CPCI system, the front card (e.g., motherboard) is typically at the extremity (at the end) of an SCSI bus and provides termination. Termination is not allowed at any point other than at the extremities. When the front card (e.g., motherboard) is present and terminating the SCSI bus, termination is not allowed on the transition card. The problem arises when a CPCI front card (e.g., motherboard) is hot swap extracted from the CPCI system because termination of the SCSI bus is lost."
(Emphasis added)

Accordingly, Applicant's claim 1 recites

"A Compact Peripheral Component Interconnect (CPCI) system comprising:

a circuit board;
a front card coupled to a transition card via said circuit board;
a Small Computer System Interface (SCSI) bus connected to said transition card, said SCSI bus having a first end and a second end; and
an SCSI device connected to said first end of said SCSI bus,
wherein during a period when said front card is disconnected from said CPCI system said transition card provides a termination at said second end of said SCSI bus.” (Emphasis added)

The Examiner acknowledges that APA does not disclose “a period when said front card is disconnected from said CPCI system said transition card provides a termination at said second end of said SCSI bus.” However the Examiner asserts that Hoglund discloses “automatically providing termination at a transition card (Figure 3, 14) when a SCSI device at an end is disconnected (column 5, lines 8-14; column 7, line 58-column 8, line 8). Therefore it would have been obvious to combine the teachings of Hoglund in the system of APA to provide a period when said front card is disconnected from said CPCI system a transition card provides a termination at said second end of said SCSI bus since this would allow devices in a SCSI chain to be disconnected without turning power off to the rest of the system.”

It appears from the Examiner’s remarks, that the Examiner is asserting that the Applicant’s transition card is analogous to the device interface card 14 of Hoglund. It also appears that the Examiner is asserting that Hoglund teaches that the transition card automatically provides a termination for the SCSI bus when a SCSI device is removed or is disconnected from an end of the SCSI chain. Applicant disagrees with the Examiner’s characterization of Hoglund and his application of that characterization to Applicant’s claims.

Hoglund teaches in Figure 1 and at col. 3, line 60 through col. 4, line 2

“The system bus 18 includes several conductors or lines which operatively couple the processor 12, the device interface 14, and the main memory 16 together. The processor 12 fetches, decodes, and executes instructions stored in the main memory 16. The processor 12 also manages the transfer of data to and from the device interface 14. Furthermore, by executing a

device driver stored in the main memory 16, the processor 12 accesses data of the device 20 via the device interface 14 and controls the termination of the peripheral bus at the device interface 14.”

Hoglund also teaches in figure 3 and at col. 5, lines 8-14

“If, however, the external chain of devices 48, 50, 52 were not coupled to the port 36, then the peripheral bus would include the interface bus 40 and the cable 56. Therefore, to properly terminate this peripheral bus, the device 46 which is at one end of the peripheral bus would terminate one end of the peripheral bus and the device interface 14 which is at the other end of the peripheral bus would terminate the other end of the peripheral bus by enabling the terminator 32.”

From the foregoing, Hoglund teaches a processor coupled to control a device interface that may terminate a SCSI bus when a SCSI device is removed. This is in contrast to Applicant’s disclosure in the specification and corresponding claim 1.

Applicant submits that as discussed above, the transition card provides the termination to a second side of the SCSI bus when the front card (i.e. motherboard) is removed.

Specifically, the front card is a processor card that provides some SCSI support, and not just a SCSI device such as a disk drive.

In addition, the configuration of the system of Hoglund is different in such a way that the combination of Hoglund and APA would not yield Applicant’s invention. More particularly, Applicant’s system teaches a front card, which has a specific meaning in a CPCI system (e.g., processor), that is at an end of the SCSI bus and provides SCSI support and SCSI termination. In addition, the transition card is coupled between the front card and any SCSI device that may be coupled to it. Thus, when the front card is replaced, the transition card provides termination. In contrast, Hoglund teaches a device interface card 14 that is coupled to two parallel extremities and controls both extremities. Further, as described above, the processor of Hoglund controls the SCSI termination on the device interface. Thus, the processor of Hoglund is more analogous to Applicant’s front card. Such that if one of the extremities has no SCSI devices connected, the device interface will terminate the SCSI bus. This is fundamentally different than Applicant’s claimed invention.

Accordingly, Applicant submits that Hoglund does not teach or suggest, as the Examiner has suggested, “wherein during a period when said front card is disconnected from said CPCI system said transition card provides a termination at said second end of said SCSI bus” as recited in Applicant’s claim 1.

Thus, Applicant submits that **neither APA nor Hoglund teach or suggest** the combination of features as recited in Applicant’s claim 1. Applicant submits that claim 1, along with its dependent claims, patentably distinguishes over AAPA in view of Hoglund for the reasons given above.

Applicant’s claim 14 recites in pertinent part “

“...a front card coupled to a transition card via said third, fourth and fifth connectors; a Small Computer System Interface (SCSI) bus connected to said transition card, said SCSI bus having a first end and a second end; and an SCSI device connected said first end of said SCSI bus; and a first time-separated power domain provided to said first, second and third connectors, said first and second connectors providing said first power domain to said front card and said third connector providing said first power domain to said transition card; wherein said first power domain can be provided to said transition card only when said front card is connected to said third connector; and wherein said transition card uses said first power domain to determine when to provide a termination at said second end of said SCSI bus.” (Emphasis added)

Hoglund discloses at col. 7, line 58-col. 8, line 8

“In the preferred embodiment, any reset condition (e.g. a SCSI RESET signal on the peripheral bus, host computer power up, removal of a device coupled to the peripheral bus, etc.) triggers execution of auto-termination instructions of the device driver. These instructions when executed configure the bi-directional pin, to which the control line 77 is connected, for input and cause the state of the present1* line 63, the present2* line 67, and the control line 77 to be determined. After the state of the present1* line 63, the present2* line 67, and the control line 77 have been determined, the instructions when executed configure the bi-directional pin, to which the control line 77 is coupled, for output. Finally, from the states of the present1* line 63, the present2* line 67, and the control line 77, these instructions when executed then cause the controller 30 to force the control line 77 to a voltage that will place the terminator 32 in the

proper state for maintaining proper termination of the peripheral bus.”
(Emphasis added)

From the foregoing, Applicant submits that Hoglund uses a software driver to establish conditions to determine whether a SCSI device has been removed or not and whether or not to terminate the SCSI bus. Applicant further submits that **neither APA nor Hoglund teaches or suggests** the features recited in claim 14. Accordingly, Applicant submits that claim 14, along with its dependent claims, patentably distinguishes over APA in view of Hoglund for at least the reasons given above.

Claim 19 recites features that are similar to the features recited in claim 14. Thus, Applicant believes claim 19, along with its dependent claims, to patentably distinguish over APA in view of Hoglund for at least the reasons given above.

CONCLUSION

Applicant submits the application is in condition for allowance, and an early notice to that effect is requested.

If any fees are due, the Commissioner is authorized to charge said fees to Meyertons, Hood, Kivlin, Kowert, & Goetzel, P.C. Deposit Account No. 501505/6000-07000/SJC.

Respectfully submitted,



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